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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,294	11/02/2001	Sandra M. Troian	4555-110 US	9407

7590 12/23/2003  
Mathews, Collins, Shepherd & Gould, P.A.  
Suite 306  
100 Thanet Circle  
Princeton, NJ 08540

EXAMINER

CHAMBERS, A MICHAEL

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 12/23/2003

# 9  
Remailed

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/016,294

Applicant(s)

TROIAN ET AL.

Examiner

A. Michael Chambers

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-101 is/are pending in the application.
- 4a) Of the above claim(s) 84-97 and 100 and 101 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-83,98 and 99 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

1. This action is a supplemental action in view of the incorrect citation of a document in paragraph number 6 of the Office action mailed October 21, 2003. The document (Sammarco et al) has been applied to claims 98 and 99 and discussed in paragraph 6. Applicant's election with traverse of the claims of Group II in Paper No. 8 is acknowledged. The traversal is on the ground that a search of the method claims of Group II (method of forming) would be a similar search to a search of the claims of Group I (method for controlling a fluid). This is not found persuasive because the searches are in completely different classes and the method of forming a surface using photo resist would not uncover "art" nor be relevant for a search of claims drawn to a method of controlling fluid. The claims of Group II (claims 93-97, 100 and 101) are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. The requirement is still deemed proper and is therefore made FINAL. An informational disclosure document (IDS) filed June 24, 2002, has been considered. Claims 84-92 were incorrectly included in Group I and should have been included with the claims of Group II. Claims 84-92 are withdrawn from consideration. An action on the merits of claims of Group I (claims 1-83, 98 and 99) is included in this Office action.

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***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

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5. Claims 1-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Figures 11 and 11a of Neukermans. See column 13, lines 2+ in which Neukermans states that a plurality of heaters (individually activated or as desired) may disposed above below or in both substrates of the “patterned” microfluidic device comprised of a plurality of substrates shown in Figures 11 and 11a and selectively actuated to control the movement of the fluid through a respective flow path. A number of flow path configurations including reservoirs and pathways of varying geometric configurations are shown. Regulation of liquids in DNA or peptide sequencing is disclosed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to operate the microfluidic device in particular the respective heaters of Neukermans in order to rout the liquid “...on the patterned surface....” .

6. Claims 98 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over pages 353 - 355 of the “Thermocapillary Pumping of Discrete Drops in Microfabricated Analysis Devices” by Sammarco et al . Sammarco et al teach fluid control by heating of a plurality of fluids and it would have been obvious to one of ordinary skill in the art to operate the microfluidic device by the recited steps of claims 98 and 99.


### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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8. Any inquiry concerning this communication communications from the Examiner should be directed to A. Michael Chambers whose telephone number is (703) 308-1016 (FAX (703) 308-7765). The Examiner can normally be reached on Mon-Thur. 6:30am-5:00pm.
9. If attempts to reach the Examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbell can be reached on 703-308-1272. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.
10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0851.

amc  
December 22, 2003



A. MICHAEL CHAMBERS  
PRIMARY EXAMINER  
ART UNIT 3753